

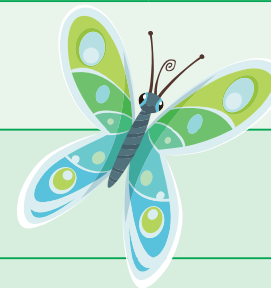


Virginia Mathematics Standards of Learning



KINDERGARTEN

Strand	Knowledge and Skills	Code	Mathseeds Lesson #			Additional Mathseeds Resources	
			Knowledge and Skills	Assessment	Higher Order Thinking Skills	Fluency	Assessment
Number and Number Sense	Read, write, and identify the numerals 0 through 30; Construct a set of objects that corresponds to a given numeral within 30, including an empty set; Determine and write the numeral that corresponds to the total number of objects in a given set of 30 or fewer concrete objects or pictorial models.	K.NS.2	1, 2, 3, 5, 7, 10, 11, 12, 14, 16, 17, 18, 19, 20, 21, 25, 28, 33, 41, 43, 45, 46, 48, 50		12	DT Kindergarten Number 1, 2, 4, 6, 7, 10, 13, 14, 17-19, 21, 22, 24, 25	Kindergarten Number Test 2
	Use objects, drawings, words or numbers to compose and decompose numbers 11-19 into a ten and some ones.	K.NS.1	41, 43, 45, 46, 48, 50		43	DT Kindergarten Number 11, 12	Kindergarten Number Test 4
	Count forward by ones, within 100, starting at any given number; Count backwards by ones when given any number between 1 and 20.	K.NS.1	14, 16, 17, 18, 19, 21, 25, 28			DT Kindergarten Number 3, 5, 9, 15, 16, 23	Kindergarten Number Test 1
	Compare numbers up to 30 using various models using the terms <i>greater than</i> , <i>less than</i> , or the <i>same as</i> .	K.NS.2	22, 28		41	DT Kindergarten Number 8, 20	Kindergarten Number Test 3
Computation and Estimation	Recognize and describe part-part-whole relationships for numbers up to 5 in a variety of configurations; Model and solve single-step contextual problems using 10 or fewer concrete objects.	K.CE.1	21, 24, 30, 32, 34, 36, 40, 47, 49, 50		30, 40, 46, 47	DT Kindergarten Operations 1 - 20, 22 - 25 MM Addition Sprints MM Subtraction Sprints	Kindergarten Operations Tests 1, 2, 4
	Use objects, drawings, words or numbers to compose and decompose numbers less than or equal to 10 in multiple ways.	K.CE.1	21, 31, 34, 36, 40		19, 31, 34, 36	DT Kindergarten Operations 6, 7, 9, 11, 12, 14, 17, 19, 23, 25	Kindergarten Operations Test 3
Measurement and Geometry	Use direct comparisons to compare, describe, and justify the lengths and heights of two objects using the terms longer/shorter and taller/shorter.	K.MG.1	13, 26			DT Kindergarten Measurement 2, 3, 5, 6, 9, 10	Kindergarten Measurement Tests 1 - 3
	Use direct comparisons to compare, describe, and justify the weights of two objects using the terms heavier/lighter.	K.MG.1	29			DT Kindergarten Measurement 7, 8, 11, 12	Kindergarten Measurement Test 4
	Use direct comparisons to compare, describe, and justify the volumes of two objects using the terms more/less.	K.MG.1	38		38	DT Kindergarten Measurement 11, 15, 16, 20	Kindergarten Measurement Test 5
	Use direct comparisons to compare, describe, and justify the amount of time spent on two events using the terms longer/shorter; Describe the units of time represented in a calendar.	K.MG.1 K.MG.3	39, 42			DT Kindergarten Measurement 1, 4, 13, 14, 17 - 19	Kindergarten Measurement Tests 6, 7
	Identify, describe, name, compare, and construct plane figures.	K.MG.2	4, 6, 15, 23		23	DT Kindergarten Geometry 1 - 8, 20	Kindergarten Geometry Tests 1, 3, 4
Probability and Statistics	Apply the data cycle (pose questions; collect or acquire data; organize and represent data; and analyze data and communicate results) with a focus on object graphs and picture graphs.	K.PS.1				DT Kindergarten Data 1 - 10	Kindergarten Data Tests 1, 2
Patterns, Functions, and Algebra	Identify, describe, extend, and create simple repeating patterns using various representations.	K.PFA.1	27, 37		6, 8, 15, 23, 27, 37	DT Kindergarten Patterns 1 - 9	Kindergarten Number Test 6



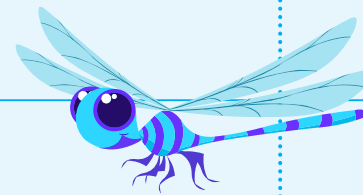


Virginia Mathematics Standards of Learning



GRADE 1

Strand	Knowledge and Skills	Code	Mathseeds Lesson #			Additional Mathseeds Resources	
			Knowledge and Skills	Assessment	Higher Order Thinking Skills	Fluency	Assessment
			Online Lesson, Printable Resources, & Problem Solving Tasks	End-of-lesson Quiz	Critical Thinking and Problem Solving Interactives	Driving Tests (DT) Mental Minute (MM)	Printable Achievement Standards Assessment
Number and Number Sense	Read and write numerals 0-120 in and out of sequence; Represent and write a number using tens and ones and the corresponding numeral; Describe the number of groups of tens and ones when given a two-digit number and justify reasoning; Group a collection of up to 120 objects into tens and ones, and count to determine the total.	1.NS.2	56, 60, 63, 67, 75, 81, 86		60, 67, 75, 81	DT Grade 1 Number 1 - 6, 8 - 10, 12, 13, 15 - 17, 19, 21, 22, 24	Grade 1 Number and Algebra: Whole Numbers Tests 1 - 9
	Count forwards by ones from 0 to 120 starting at any number; Count backward by ones when given any number between 1 and 30; Represent forward counting patterns when counting by groups of 2, 5 and 10 up to 120 using a variety of tools.	1.NS.1	56, 60, 67, 75, 77, 79, 81, 86, 90		56, 77, 79	DT Grade 1 Number 11, 14, 23 DT Grade 1 Patterns and Fractions 1, 2, 4, 7 - 10, 12	Grade 1 Number and Algebra: Patterns Tests 1 - 7
	Identify a penny, nickel, and dime by their attributes and describe the number of pennies equivalent to a nickel and a dime; Count by ones, fives, or tens to determine the value of a collection of like coins whose total value is 100 cents or less.	1.NS.1	64, 83, 92		83	DT Grade 1 Measurement 3, 5 - 7, 12	Grade 1 Number and Algebra: Fractions and Money Tests 4 - 8
	Compare two numbers between 0 and 120 represented pictorially or with concrete objects using the terms <i>greater than</i> , <i>less than</i> , or <i>equal to</i> .	1.NS.2				DT Grade 1 Number 7, 18, 20	
	Use mathematical reasoning and justification to solve contextual problems that involve partitioning models into two and four equal sized parts.	1.NS.3	61, 66			DT Grade 1 Patterns and Fractions 3, 5, 6, 11	Grade 1 Number and Algebra: Fractions and Money Tests 1 - 3, 7
Computation and Estimation	Determine the unknown whole number that will result in a sum or difference of 10 or 20; Identify and use (+) as a symbol for addition and (-) as a symbol for subtraction; Describe the equal symbol (=) as a balance representing an equivalent relationship between expressions on either side of the equal symbol; Use concrete materials to model, identify, and justify when two expressions are not equal.	1.CE.1	51, 72, 76, 91, 93, 100		63, 76, 93	DT Grade 1 Number 18 DT Grade 1 Operations 8, 10 - 12, 16	
	Recall with automaticity addition and subtraction facts within 10 and represent, solve, and justify solutions to single-step problems, including those in context, using addition and subtraction with whole numbers within 20.	1.CE.1	51, 53, 58, 65, 68, 72, 85, 88, 91, 93, 95, 96, 98, 100		51, 53, 65, 72, 74, 81, 83, 85, 88, 91, 93, 95, 96, 98, 100	DT Grade 1 Operations 1 - 7, 9, 13 - 15, 17 - 20 MM Addition Sprints MM Subtraction Sprints	Grade 1 Number and Algebra: Place Value Tests 1 - 6
Measurement and Geometry	Use nonstandard units to measure the lengths of two objects and compare the measurements using the terms longer/shorter, taller/shorter, or the same as; Measure the length of the same object with two different units and describe how and why the measurements differ.	1.MG.1	55, 88			DT Grade 1 Measurement 2, 4, 13, 14	Grade 1 Measurement: Length and Capacity Tests 1 - 5
	Use nonstandard units to measure the weights of two objects and compare the measurements using the terms lighter, heavier, or the same as; Measure the weight of the same object with two different units and describe how and why the measurements differ.	1.MG.1	73				
	Use nonstandard units to measure the volumes of two containers and compare the measurements using the terms more, less, or the same as; Measure the volume of the same container with two different units and describe how and why the measurements differ.	1.MG.1	89			DT Year 1 Measurement 11, 17 - 19	Year 1 Measurement: Length and Capacity Tests 1 - 5
	Describe, sort, draw, and name plane figures (circles, triangles, squares, and rectangles), and compose larger plane figures by combining simple plane figures.	1.MG.2	52, 69		52, 69	DT Grade 1 Geometry 1 - 3, 6, 9, 10, 13	Grade 1 Geometry: Shape Tests 1, 2, 5, 6
	Demonstrate an understanding of the concept of passage of time (to the nearest hour and half-hour) and the calendar.	1.MG.3	54, 63, 70, 87		63, 87	DT Grade 1 Measurement 1, 8 - 10, 15, 16	Grade 1 Measurement: Time Tests 1 - 6
Probability and Statistics	Apply the data cycle (pose questions; collect or acquire data; organize and represent data; and analyze data and communicate results) with a focus on object graphs and picture graphs.	1.PS.1	80, 97		80	DT Grade 1 Data 1 - 3, 9, 10, 12 - 16	Grade 1 Statistics: Data Tests 1 - 5
Patterns, Functions, and Algebra	Identify, describe, extend, create, and transfer repeating patterns and increasing patterns using various representations.	1.PFA.1	77, 79, 90		63, 77, 79	DT Grade 1 Patterns and Fractions 7 - 10	Grade 1 Number and Algebra: Patterns Tests 1 - 7





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GRADE 2

Strand	Knowledge and Skills	Code	Mathseeds Lesson #			Additional Mathseeds Resources	
			Knowledge and Skills	Assessment	Higher Order Thinking Skills	Fluency	Assessment
			Online Lesson, Printable Resources, & Problem Solving Tasks	End-of-lesson Quiz	Critical Thinking and Problem Solving Interactives	Driving Tests (DT) Mental Minute (MM)	Printable Achievement Standards Assessment
Number and Number Sense	Read, write, and represent three-digit numbers in standard form, expanded form, and word form; Compose and decompose whole numbers up to 200 by making connections between a variety of models and counting strategies; Plot and justify the position of a given number up to 100 on a number line with pre-marked benchmarks.	2.NS.2	101, 105, 106		105, 106, 108	DT Grade 2 Number 1, 4, 5, 8, 11, 12, 16, 18 - 24	Grade 2 Number and Algebra: Numbers to 1000 Tests 1 - 5, 7
	Represent forward counting patterns when counting by groups of 2s, 5s, 10s, and 25s starting at various multiples; Describe and use patterns in skip counting by multiples of 2, 5, 10, and 25 to justify the next number; Describe and use patterns in skip counting backwards by 10s; Determine whether a number is even or odd using concrete objects and justify reasoning.	2.NS.1	108, 117, 133, 140, 166		101, 117, 133, 137	DT Grade 2 Number 2, 3, 6, 7, 10, 12, 13	Grade 2 Number and Algebra: Number Patterns Test 1 - 8
	Compare two whole numbers, each 999 or less, represented concretely, pictorially, or symbolically, using words and symbols.	2.NS.2	122			DT Grade 2 Number 2, 6, 9, 14, 15, 17	Grade 2 Number and Algebra: Numbers to 1000 Test 6
	Use mathematical reasoning and justification to solve contextual problems that involve partitioning models into equal-sized parts.	2.NS.3	132, 138		132	DT Grade 2 Patterns and Fractions 5, 11, 12, 14 - 17	Grade 2 Number and Algebra: Fractions and Money Tests 1 - 4
	Solve problems that involve counting and representing money amounts up to \$2.00.	2.NS.4	125, 147, 159		125, 131, 147	DT Grade 2 Measurement 12	Grade 2 Number and Algebra: Fractions and Money Tests 5 - 8
Computation and Estimation	Recall addition and subtraction facts within 20; Estimate, represent, solve, and justify solutions to single-step and multi-step problems using addition and subtraction with whole numbers where addends or minuends.	2.CE.1	88, 95, 96, 98, 103, 110, 118, 120, 124, 128, 131, 134, 137, 139, 140, 142, 150		81, 88, 95, 96, 98, 100, 110, 118, 120, 124, 137, 139, 141	DT Grade 2 Operations 14 - 17, 20, 22, 23 MM Addition Sprints MM Subtraction Sprints	Grade 2 Number and Algebra: Addition and Subtraction Tests 3, 5 - 8
Measurement and Geometry	Explain the purpose of various measurement tools and identifying a ruler as an instrument to measure length; Use U.S. Customary units to estimate, measure, and compare the length of an object using a ruler.	2.MG.1	104, 126, 140			DT Year 2 Measurement 6, 9, 11, 13, 15, 19, 21 - 24	Year 2 Measurement: Informal Units Tests 1, 2, 8
	Explain the purpose of various measurement tools and identifying different types of scales as instruments to measure weight; Use U.S. Customary units to estimate, measure, and compare the weight of an object using a scale.	2.MG.1	135		135	DT Year 2 Measurement 17, 18	Year 2 Measurement: Informal Units Tests 6 - 8
	Explain the purpose of various measurement tools and identifying different types of measuring cups as instruments to measure liquid volume; Use U.S. Customary units to estimate, measure, and compare the liquid volume of a container using a measuring cup.	2.MG.1	116, 140			DT Year 2 Measurement 8	Year 2 Measurement: Informal Units Tests 4, 5, 8
	Demonstrate an understanding of the concept of time to the nearest five minutes, using analog and digital clocks.	2.MG.2	109, 114, 123, 127		109	DT Grade 2 Measurement 1 - 5, 7, 10, 14, 16, 20	Grade 2 Measurement: Time Tests 1 - 5
	Identify, describe, and create plane figures that have at least one line of symmetry and explain its relationship with congruency.	2.MG.3	119, 140, 145, 152, 184		119, 145	DT Grade 2 Geometry 4, 6, 7, 10	Grade 2 Geometry: Shape and Movement Tests 1, 2, 5
	Describe, name, compare, and contrast plane and solid figures.	2.MG.4	35, 44, 62, 69, 99, 121, 169		121, 140	DT Grade 1 Geometry 7 - 9, 17 - 19 DT Grade 2 Geometry 5	Grade 1 Geometry: Shape Tests 3 - 6
Probability and Statistics	Apply the data cycle (pose questions; collect or acquire data; organize and represent data; and analyze data and communicate results) with a focus on pictographs and bar graphs.	2.PS.1	140, 143		143	DT Grade 2 Data and Chance 1, 4, 5, 7 - 14	Grade 2 Statistics: Data Tests 1 - 6
Patterns, Functions, and Algebra	Describe, extend, create, and transfer repeating and increasing patterns using various representations.	2.PFA.1	117, 133		101, 117, 133, 137	DT Grade 2 Patterns and Fractions 1 - 4, 6 - 10, 13	Grade 2 Number and Algebra: Number Patterns Tests 1 - 8



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GRADE 3

Strand	Knowledge and Skills	Code	Mathseeds Lesson #			Additional Mathseeds Resources	
			Knowledge and Skills	Assessment	Higher Order Thinking Skills	Fluency	Assessment
			Online Lesson, Printable Resources, & Problem Solving Tasks	End-of-lesson Quiz	Critical Thinking and Problem Solving Interactives	Driving Tests (DT) Mental Minute (MM)	Printable Achievement Standards Assessment
Number and Number Sense	Read and write six-digit whole numbers in standard form, expanded form, and word form; Apply patterns within the base 10 system to determine and communicate the place and value of each digit in a six-digit whole number; Compose, decompose, and represent numbers up to 9,999 in multiple ways; Demonstrate an understanding of the base 10 system to compare and order whole numbers up to 9,999.	3.NS.1 3.NS.2	151, 156, 161		151, 156, 161		
	Represent, name, and write a given fraction or mixed number using area models, length models, and set models; Identify a fraction represented by a model as the sum of unit fractions.	3.NS.3	160, 175, 180, 191, 197		197		
	Compose and decompose fractions with denominators in multiple ways with models.	3.NS.3	191		191		
	Compare two fractions and/or mixed numbers with like numerators and/or denominators using words and symbols using area models, length models, and without models.	3.NS.3	160, 175		175		
	Represent equivalent fractions with using area models and length models.	3.NS.3	180		175, 180		
	Solve problems, including those in context, that involve counting, comparing, representing, and making change for money amounts up to \$5.00.	3.NS.4	159		159		
Computation and Estimation	Estimate, represent, solve, and justify solutions to single-step and multistep problems, including those in context, using addition and subtraction with whole numbers where addends and minuends.	3.CE.1	128, 134, 144, 146, 159, 163, 166, 170, 173, 178, 183, 188, 194, 195		128, 134, 144, 146, 159, 163, 170, 173, 178, 183, 188, 194	MM Addition Sprints MM Subtraction Sprints	
	Recall with automaticity multiplication and division facts through 10×10 ; Represent, solve, and justify solutions to single-step contextual problems using multiplication and division with whole numbers.	3.CE.2	115, 130, 136, 155, 158, 165, 168, 171, 176, 181, 186, 190, 193, 196, 199		115, 130, 136, 168, 176, 181, 186, 188, 193, 196, 199	MM Multiplication Sprints MM Division Sprints	
Measurement and Geometry	Estimate and measure length of an object to the nearest U.S. Customary unit and metric unit; Compare estimates of length with the actual measurements.	3.MG.1	182, 192, 198		182		
	Estimate and measure weight/mass of an object to the nearest U.S. Customary unit and metric unit; Compare estimates of weight/mass with the actual measurements.	3.MG.1	172		172		
	Estimate and measure liquid volume to the nearest U.S. Customary unit and metric unit; Compare estimates of liquid volume with the actual measurements.	3.MG.1	154		154		
	Describe and give examples of area as a measurement in contextual situations; Estimate and determine the area of a given surface by counting the number of square units, describe the measurement.	3.MG.2	59, 112, 149, 157, 200		59, 149, 200		Grade 2 Measurement: Informal Units Tests 3, 8
	Describe and give examples of perimeter as a measurement in contextual situations; Estimate and measure the distance around a polygon to determine the perimeter and justify the measurement; Given the lengths of all sides of a polygon, determine its perimeter.	3.MG.2	192				
	Demosntrate an understanding of the concept of time to the nearest minute and solve single-step contextual problems involving elapsed time in one-hour increments within a 12-hour period.	3.MG.3	162, 179, 185, 189		179, 185, 189		
	Identify, describe, classify, compare, combine, and subdivide polygons.	3.MG.4	152, 169, 177, 184				
Probability and Statistics	Apply the data cycle (formulate questions; collect or acquire data; organize and represent data; and analyze data and communicate results) with a focus on pictographs and bar graphs.	3.PS.1	174, 187, 198		187		
Patterns, Functions, and Algebra	Identify, describe, extend, and create increasing and decreasing patterns using various representations.	3.PFA.1	153, 195		153, 195		

